4v

10. (Amended) An electoptical system which contains a liquid crystal film or layer according to claim 1.

## Please add the following new claims.

30. Liquid crystal film with homeotropic alignment wherein said hemitropic alignment is achieved by an aligning layer on a substrate wherein said aligning layer is a smooth Al<sub>2</sub>O<sub>3</sub> layer.



- 31. Liquid crystal film according to claim 30 wherein the substrate is a polymeric material.
- 32. Liquid crystal film according to claim 31 wherein the substrate is a plastic sheet or film.
- 33. Liquid crystal film according to claim 30 wherein the substrate prior to its coating with the alignment layer or its precursor is subjected to a corona discharge.
- 34. Process of fabricating a homeotropically oriented liquid crystal film according to claim 30 which comprises applying an aligning layer as defined in claim 30 on a substrate.
- 35. An electroptical system which contains a liquid crystal film according to claim 30.
- 36. A liquid crystal film as in claim 30, wherein said aligning layer is a thin transparent  $Al_2O_3$  coating.

- 37. Liquid crystal film as in claim 30 prepared from a layer comprising one or more polymerizable mesogenic compounds.
- 38. Liquid crystal film as in claim 30 prepared from a mixture comprising reactive mesogenic compounds of formula I

$$P$$
-(Sp-X)<sub>n</sub>-MG-R,

I

wherein

P is a polymerizable group

Sp is a spacer group having 1 to 20 C atoms,

X is a group selected from -O-, -S-, -CO-, -COO-, -OCO-O- or a single bond; n is 0 or 1,

MG is a mesogenic or mesogenity supporting group, according to formula II

$$-(A^1-Z^1)_m-A^2-Z^2-A^3-$$
 II

wherein A<sup>1</sup>, A<sup>2</sup>

and A<sup>3</sup> are independently from each other 1,4-phenylene in which, in addition, one or more CH groups may be replaced by N, 1,4-cyclohexylene in which, in addition, one or two non-adjacent CH<sub>2</sub> groups may be replaced by O and/or S, 1,4-cyclohexenylene or napththalene-2,6-diyl, it being possible for all these groups to be unsubstituted, mono- or poly-substituted with halogen, cyano or nitro groups or alkyl, alkoxy or acyl groups having 1 to 7 C atoms wherein one or more H atoms may be substituted by F or Cl,

 $Z^1$  and  $Z^2$  are each independently -COO-, -OCO-, CH<sub>2</sub>CH<sub>2</sub>-, -OCH<sub>2</sub>-, -CH<sub>2</sub>O-, -CH<sub>2</sub>=CH-, -C  $\equiv$ C-, -CH=CH-COO-, -CO-CH=CH- or a single bond and

m is 0, 1 or 2,

and

R

is an alkyl radical with up to 25 C atoms which may be unsubstituted, mono-or polysubstituted by halogen or CN, it being also possible for one or more non-adjacent  $CH_2$  groups to be replaced, in each case independently from one another, by -O-, -S-,-NH-,-N(CH<sub>3</sub>)-, -CO-, -COO- -OCO-, -OCO-O-, -S-CO-, -CO-S- or -C  $\equiv$ C- in such a manner that oxygen atoms are not linked directly to one another, or alternatively R is halogen, cyano or has independently one of the meanings given for P-(Sp-X)<sub>n</sub>-.

- 39. Liquid crystal film according to claim 30 wherein the surface of the smooth Al<sub>2</sub>O<sub>3</sub> layer is smoother than aluminum oxide coatings obtained by evaporation methods or sputtering.
- 40. Liquid crystal film or layer according to claim 1 wherein the surface of the smooth Al<sub>2</sub>O<sub>3</sub> layer is smoother than aluminum oxide coatings obtained by evaporation methods or sputtering.